

INTERNATIONAL SEARCH REPORT

Inten Application No
PCT/GB2004/003181

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12Q1/68 G01N33/30 A61K39/395 A61K31/7088

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q G01N A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, EMBASE, WPI Data, PAJ, EMBL

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JANKOWSKI MAREK ET AL: "Oxytocin and its receptors are synthesized in the rat vasculature"	1,2,12
Y	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 97, no. 11, 23 May 2000 (2000-05-23), pages 6207-6211, XP002303814 ISSN: 0027-8424 the whole document	3-11,19,20
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the International filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the International filing date but later than the priority date claimed

T later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

12 November 2004

Date of mailing of the International search report

08/12/2004

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	PAQUIN J ET AL: "Oxytocin induces differentiation of P19 embryonic stem cells to cardiomyocytes" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, NATIONAL ACADEMY OF SCIENCE. WASHINGTON, US, vol. 99, no. 14, 9 July 2002 (2002-07-09), pages 9550-9555, XP002263273 ISSN: 0027-8424	1,2,12
Y	the whole document	3-12,19, 20
X	GIMPL G ET AL: "The oxytocin receptor system: Structure, function, and regulation" PHYSIOLOGICAL REVIEWS, AMERICAN PHYSIOLOGICAL SOCIETY, US, vol. 81, no. 2, April 2001 (2001-04), pages 629-683, XP002263271 ISSN: 0031-9333	1,2,12
Y	page 651, right-hand column, last paragraph - page 652, right-hand column page 659, right-hand column - page 660, left-hand column the whole document	3-11,19, 20
X	OSTROWSKI NANCY L ET AL: "Estrogen increases renal oxytocin receptor gene expression" ENDOCRINOLOGY, vol. 136, no. 4, 1995, pages 1801-1804, XP002303811 ISSN: 0013-7227 the whole document	1,2,12
X	STRAKOVA Z ET AL: "ERK2 mediates oxytocin-stimulated PGE2 synthesis." THE AMERICAN JOURNAL OF PHYSIOLOGY. APR 1998, vol. 274, no. 4 Pt 1, April 1998 (1998-04), pages E634-E641, XP002303868 ISSN: 0002-9513 the whole document	1,2,12
Y	GUTKOWSKA J ET AL: "Oxytocin is a cardiovascular hormone" BRAZILIAN JOURNAL OF MEDICAL AND BIOLOGICAL RESEARCH, vol. 33, no. 6, June 2000 (2000-06), pages 625-633, XP002303812 ISSN: 0100-879X the whole document	1-12,19, 20
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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	BRETON CHRISTOPHE ET AL: "Presence of functional oxytocin receptors in cultured human myoblasts." THE JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM. MAR 2002, vol. 87, no. 3, March 2002 (2002-03), pages 1415-1418, XP002303815 ISSN: 0021-972X the whole document	1-12,19, 20
Y	KNOX SARAH S ET AL: "Social isolation and cardiovascular disease: An atherosclerotic pathway?" PSYCHONEUROENDOCRINOLOGY, vol. 23, no. 8, November 1998 (1998-11), pages 877-890, XP002303816 ISSN: 0306-4530 the whole document	1-12,19, 20
Y	ZINGG H H ET AL: "THE OXYTOCIN RECEPTOR" TRENDS IN ENDOCRINOLOGY AND METABOLISM, ELSEVIER SCIENCE PUBLISHING, NEW YORK, NY, US, vol. 14, no. 5, July 2003 (2003-07), pages 222-227, XP001182320 ISSN: 1043-2760 Available online 13 May 2003 the whole document	1-12,19, 20
A	SOTGIA F ET AL: "Localization of the human caveolin-3 gene to the D3S18/D3S4163/D3S4539 locus (3p25), in close proximity to the human oxytocin receptor gene - Identification of the caveolin-3 gene as a candidate for deletion in 3p-syndrome" FEBS LETTERS, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 452, no. 3, 11 June 1999 (1999-06-11), pages 177-180, XP004259745 ISSN: 0014-5793 the whole document	
A	OLSON TIMOTHY M ET AL: "Mapping a cardiomyopathy locus to chromosome 3p22-p25" JOURNAL OF CLINICAL INVESTIGATION, vol. 97, no. 2, 1996, pages 528-532, XP002303817 ISSN: 0021-9738 the whole document	

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C(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	RICE TREVA ET AL: "Genomewide linkage scan of resting blood pressure: HERITAGE Family Study. Health, Risk Factors, Exercise Training, and Genetics." HYPERTENSION. JUN 2002, vol. 39, no. 6, June 2002 (2002-06), pages 1037-1043, XP002302275 ISSN: 1524-4563 the whole document	
A	MICHELINI STEFANO ET AL: "Polymorphism and genetic mapping of the human oxytocin receptor gene on chromosome 3" AMERICAN JOURNAL OF MEDICAL GENETICS, vol. 60, no. 3, 1995, pages 183-187, XP008037402 ISSN: 0148-7299 the whole document	
P,X	WO 03/093816 A (GOLZ STEFAN ; BAYER AG (DE); GEERTS ANDREAS (DE); BRUEGGEMEIER ULF (DE) 13 November 2003 (2003-11-13) page 42, line 12 - line 23 page 57, line 4 - line 29 page 67, line 8 - page 77, line 2	1-12,19, 20
P,Y	WO 2004/000993 A (GUTKOWSKA JOLANTA ; PAQUIN JOANNE (CA); JANKOWSKI MAREK (CA); CT HOSPI) 31 December 2003 (2003-12-31) the whole document	1-12,19, 20
P,Y	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 2003, PAREDES J ET AL: "Chronic microdialysis of CNS peptides as a function of social environment in the whhl rabbit." XP002303819 Database accession no. PREV200400204153 abstract & SOCIETY FOR NEUROSCIENCE ABSTRACT VIEWER AND ITINERARY PLANNER, vol. 2003, 2003, pages Abstract No. 713.13 URL-http://sf, 33RD ANNUAL MEETING OF THE SOCIETY OF NEUROSCIENCE; NEW ORLEANS, LA, USA; NOVEMBER 08-12, 2003 the whole document	1-12,19, 20

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 13-18 (all completely)
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

Continuation of Box II.2

Claims Nos.: 13-18 (all completely)

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Present claims 13 and 14 relate to the method of claim 12 further comprising steps of using a "test target protein" for identifying a "test compound" which is useful in the treatment of CAD. Claim 15 relates to the methods of claims 13 and 14 further comprising the step of formulating a test compound into a pharmaceutical composition. The methods of claims 13,14 and 15 are considered to comprise different and irreconcilable types of processes, so that the subject matter for which protection is sought is not clearly defined (Art. 6 PCT). Moreover, due to the fact that neither the "test target protein" of claims 13 and 14 nor the "test compound" of claim 15 are further defined and due to the fact that no specific examples of such "test target protein" or "test compound" are disclosed in the patent specification, a meaningful search for the different processes of claims 13-15 was not possible.

Although claim 16 refers to a method of treatment of the human/animal body a search could have been carried out and based on the alleged effects of the compound. However due to reasons given below, such search was not possible.

Present claims 16 and 17 relate to a compound wherein the compound is only defined by reference to a desirable characteristic or property, namely a compound being identifiable by a method according to claims 13 and 14. However, this functional feature defining the result to be achieved in connection with an indefinite structural feature, as is the case here, cannot assist in rendering the claim clear, since it still leaves open what exactly the subject-matter is for which patent protection is sought. This lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Due to the fact that the patent specification does not disclose any clear examples of such compounds, the lack of clarity (Art. 6 PCT) is such that no search could be carried out for any subject matter covered by claims 16 and 17.

Present claim 18 refers to a method which is only defined by a result to be achieved, namely "identifying other components of the CAD biochemical pathway of which OXTR is a component". The patent specification does not disclose any technical teaching of how to practice such method. Furthermore the term "the CAD biochemical pathway of which OXTR is a component" is considered completely unclear. The method of claim 18 is therefore considered neither clear nor supported (Art. 6 PCT). The lack of clarity and support is such that a meaningful search of the subject matter claimed was not possible.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary

examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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annex on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
WO 03093816	A	13-11-2003	WO	03093816 A2	13-11-2003
WO 2004000993	A	31-12-2003	CA	2391118 A1	21-12-2003
			WO	2004000993 A2	31-12-2003